

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Anthony M. Eaton et al. Examiner: Lun S. Lao

Serial No.: 09/492,913

Group Art Unit: 2615

Filed: January 20, 2000

Docket: 899.011US1

For: HEARING AID SYSTEMS

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**APPEAL BRIEF UNDER 37 CFR § 41.37**

Mail Stop Appeal Brief- Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The Appeal Brief is presented in support of the Notice of Appeal to the Board of Patent Appeals and Interferences dated December 13, 2007 from the rejection of claims 1-5, 15-72 and 93-95 of the above-identified application, as set forth in the Office Action dated July 13, 2007.

The Commissioner of Patents and Trademarks is hereby authorized to charge Deposit Account No. 19-0743 in the amount of \$510.00 which represents the requisite fee set forth in 37 C.F.R. § 41.20(b)(2). The Appellants respectfully request consideration and reversal of the Examiner's rejections of pending claims.

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This is the second appeal brief in this application. A Notice of Appeal was previously filed on October 2, 2006 from the Final Rejection of claims 1-5, 15-72 and 93-95 of the above-identified application, as set forth in the Final Office Action dated June 7, 2006; and a corresponding Appeal Brief was previously filed on April 2, 2007.

The Office responded to the Appeal Brief by removing the application from appeal and issuing a non-final Office Action dated July 13, 2007. In the Office Action, the Office stated that the arguments in the Appeal Brief were considered but were moot in view of the new ground(s) of rejection. For the record, Appellant points out that the rejection of claims 15-65, 71-72 and 93-95 are the same as before.

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

**TABLE OF CONTENTS**

	<u>Page</u>
<b><u>1. REAL PARTY IN INTEREST</u></b> .....	3
<b><u>2. RELATED APPEALS AND INTERFERENCES</u></b> .....	3
<b><u>3. STATUS OF THE CLAIMS</u></b> .....	3
<b><u>4. STATUS OF AMENDMENTS</u></b> .....	3
<b><u>5. SUMMARY OF CLAIMED SUBJECT MATTER</u></b> .....	4
<b><u>6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL</u></b> .....	6
<b><u>7. ARGUMENT</u></b> .....	8
<b><u>8. SUMMARY</u></b> .....	23
<b><u>CLAIMS APPENDIX</u></b> .....	24
<b><u>EVIDENCE APPENDIX</u></b> .....	33
<b><u>RELATED PROCEEDINGS APPENDIX</u></b> .....	34

## **1. REAL PARTY IN INTEREST**

The real party in interest of the above-captioned patent application is the assignee, STARKEY LABORATORIES, INC.

## **2. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to the Appellants that will have a bearing on the Board's decision in the present appeal.

## **3. STATUS OF THE CLAIMS**

Claims 1-5, 15-72 and 93-95 remain pending, and the status of these pending claims are provided below:

Claims 1-5. (Rejected)

Claims 15-72. (Rejected)

Claims 93-95. (Rejected).

Claims 1-5, 15-72 and 93-95 stand rejected, and are the subject of the present Appeal.

## **4. STATUS OF AMENDMENTS**

No amendments have been made subsequent to the Office Action dated July 13, 2007.

## **5. SUMMARY OF CLAIMED SUBJECT MATTER**

Some aspects include, but are not limited to, methods and systems for programming software in hearing aids.

In the method of independent claim 1, a mobile wireless communication protocol is used to communicate between a mobile device, such as 106 as illustrated in FIG. 1 or 606 as illustrated in FIG. 6, and a programming fitting server, such as 116 as illustrated in FIG. 1 or 616 as illustrated in FIG. 6 (see e.g. page 8, lines 8-17). Further, using the programming fitting server and the mobile device, software is programmed in a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1 or 602<sub>B0</sub> as illustrated in FIG. 6 (see e.g. page 7, lines 23-28, page 9, lines 23-29 and page 12, line 14 – page 13, line 5).

In the method of independent claim 4, a hearing aid system, such as 102 as illustrated in FIG. 1 or 602<sub>B</sub> as illustrated in FIG. 6, is programmed through a mobile device, such as 106 as illustrated in FIG. 1 or 606 as illustrated in FIG. 6, using at least one mobile wireless communication protocol, such as 104 as illustrated in FIG. 1 (see e.g. page 2, lines 13-15, page 6, line 26 – page 7, line 7 and page 9, lines 23-29). In programming the hearing aid system, a distributed application is received in the mobile device from a programming fitting server, such as 116 as illustrated in FIG. 1 or 616 as illustrated in FIG. 6, through at least one long-range network using the at least one mobile wireless communication protocol (see e.g. page 9, lines 1-18). The distributed application is used to program a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1 or 602<sub>B0</sub> as illustrated in FIG. 6, in the hearing aid system (see e.g. page 2, lines 13-15 and page 9, lines 12-29).

The system of independent claim 15 comprises a hearing aid system, such as 102 as illustrated in FIG. 1 or 602<sub>B</sub> as illustrated in FIG. 6, that has a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1 or 602<sub>B0</sub> as illustrated in FIG. 6 (see e.g. page 6, lines 7-8). The system of claim 15 further comprises a programming fitting server, such as 116 as illustrated in FIG. 1 or 616 as illustrated in FIG. 6, and a mobile device, such as 106 as illustrated in FIG. 1 or 606 as illustrated in FIG. 6 (see e.g. page 7, lines 14-16, page 8, lines 27-29, page 12, lines 10-13 and page 12, lines 21-24). The mobile device is adapted to use a mobile wireless communication

protocol to communicate with the programming fitting server and to program software in the hearing aid (see e.g. page 7, lines 23-28, page 8, lines 8-17, page 9, lines 23-29 and page 12, line 14 – page 13, line 5).

The system of independent claim 36 comprises a hearing aid system, such as 102 as illustrated in FIG. 1 or 602<sub>B</sub> as illustrated in FIG. 6, that has a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1 or 602<sub>B0</sub> as illustrated in FIG. 6 (see e.g. page 6, lines 7-8). The system of claim 36 further comprises a distributed application (see e.g. page 9, lines 1-18), and a mobile device, such as 106 as illustrated in FIG. 1 or 606 as illustrated in FIG. 6, that is adapted to program the hearing aid. The mobile device is adapted to use a mobile wireless communication protocol to receive the distributed application from a computer, such as 116 as illustrated in FIG. 1 or 616 as illustrated in FIG. 6, from a long-range network and to use the distributed application to program the hearing aid (see e.g. page 7, lines 23-28, page 8, lines 8-17, page 9, lines 23-29 and page 12, line 14 – page 13, line 5).

The system of independent claim 47 comprises a hearing aid system, such as 102 as illustrated in FIG. 1, 602<sub>B</sub> as illustrated in FIG. 6 or 1102<sub>A</sub> as illustrated in FIG. 11, that has a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1, 602<sub>B0</sub> as illustrated in FIG. 6 or 1102<sub>A0</sub> as illustrated in FIG. 11 (see e.g. page 16, lines 17-19 and page 17, lines 7-8). The system of claim 47 further comprises a terminal, such as 1106 as illustrated in FIG. 11 (see e.g. page 16, line 20). The terminal is adapted to program software in the hearing aid (see e.g. page 17, lines 7-11) and to use at least one wireless communication protocol to communicate with a programming fitting server, such as 116 as illustrated in FIG. 1, 616 as illustrated in FIG. 6 or 1116 as illustrated in FIG. 11, to program the software (see e.g. page 17, line 19 – page 18, line 10).

The system of independent claim 66 comprises a hearing aid system, such as 102 as illustrated in FIG. 1, 602<sub>B</sub> as illustrated in FIG. 6 or 1102<sub>A</sub> as illustrated in FIG. 11, that has a hearing aid, such as 102<sub>0</sub> as illustrated in FIG. 1, 602<sub>B0</sub> as illustrated in FIG. 6 or 1102<sub>A0</sub> as illustrated in FIG. 11 (see e.g. page 16, lines 17-19 and page 17, lines 7-8). The system of claim 66 further comprises a programming fitting server, such as 116 as illustrated in FIG. 1, 616 as illustrated in FIG. 6 or 1116 as illustrated in FIG. 11, that is adapted to store a distributed application (see e.g. page 9, lines 5-6 or page 17, lines 27-29), and a terminal, such as 1106 as illustrated in FIG. 11 (see e.g. page 16, line 20). The terminal is adapted to program software in

the hearing aid (see e.g. page 17, lines 7-11) and to communicate using a wireless communication protocol to receive the distributed application from the server from a long-range network, such as 1110 as illustrated in FIG. 11 (see e.g. page 17, line 19 – page 18, line 2). The mobile device is adapted to use the distributed application to interact with the hearing aid (see e.g. page 18, lines 1-10).

This summary does not provide an exhaustive or exclusive view of the present subject matter. The scope of the present subject matter is provided by the claims and their legal equivalence.

## **6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1-5, 15-21, 24-26, 30, 32-33, 36, 47-53, 56-58, 64-66, 68-69 and 94 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) in view of Anderson (US 5,721,783).

Whether claims 22-23 and 54-55 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claims 15 and 47 above, and further in view of Shennib (US 5,197,332).

Whether claims 27-29, 31-32, 34-35 and 59-63 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claims 15 and 47 above, and further in view of Leppisaari et al. (US 6,717,925).

Whether claims 37-40 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claim 36 above, and further in view of Szymansky (US 6,557,029).

Whether claims 41 and 71 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claims 15-16 and 47-48 above, and further in view of Knappe et al. (US 6,061,431).

Whether claims 43-46 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claims 15 and 24 above, and further in view of Fazio (US 6,590,986).

Whether claims 42 and 72 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) and Anderson (US 5,721,783) as modified by Leppisaari et al. (US 6,717,925) as applied to claims 15 and 31 above, and further in view of Peters (US 6,601,093).

Whether claims 67, 70, 93 and 95 were properly rejected under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) as modified by Anderson (US 5,721,783) as applied to claims 36, 66 above, and further in view of Peters (US 6,601,093).



## 7. ARGUMENT

### *A) The Applicable Law under 35 U.S.C. §103(a)*

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct 1727, 1734, 82 USPQ2d 1385, 1391 (2007) (While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls).

The Supreme Court stated “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”). *Id.* at 1741, 82 USPQ2d at 1396. This view against conclusory statements agrees with *In re Sang-Su Lee*, 277 F.3d 1338 (Fed. Cir. 2002).<sup>1</sup>

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." *MPEP 2144.03* states, with respect to rejections taking official notice of facts not in the record, "such rejections should be judiciously applied." Section A of this MPEP section states: "It would not

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<sup>1</sup> "The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions and cannot be dispensed with." *Lee*, at 1343. "The board cannot rely on conclusory statement when dealing with particular combinations of prior art and specific claims, but must set for the rationale on which it relies." *Lee*, at 1343.

be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.” Section B of this MPEP section indicates that, if official notice is taken of a fact, unsupported by documentary evidence, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable.

According to MPEP 706.02(j), the following should be set forth in a §103 rejection: (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate; (B) the difference or differences in the claim over the applied reference(s); (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification. Additionally, this section states that it is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.

***B) Discussion of the rejection of claims 1-5, 15-21, 24-26, 30, 32-33, 36, 47-53, 56-58, 64-66, 68-69 and 94 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) in view of Anderson (U.S. Patent No. 5,721,783).***

The rejection states: “*Hagen does not teach that the communication between the mobile device and the programming fitting server uses a mobile wireless communication protocol.*” (Office Action dated July 13, 2007, at page 3 lines 7-8). The rejection further states: “*Anderson teaches programming (adjusting hearing compensation) hearing devices (see fig. 1, 10), wherein communication between a mobile device (16, col. 3, line 51-col.4 line 14) and a programming fitting server (19 and see col. 27 line 21-24) uses a mobile wireless communication protocol (see (col. 25 line 15-col. 26 line 23)).*” (Office Action dated July 13, 2007, at page 3 lines 9-12). The rejection concludes: “*Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Anderson into Hagen to use a mobile wireless communication protocol to establish communication between the mobile device and the programming fitting server so that more convenience could be provided to the user.*” (Office Action dated July 13, 2007, at page 3 lines 13-17). The rejection is improper for at least the following reasons.

***B)(1). The Office improperly combines the references.***

The Office improperly relies on conclusory language and does not provide clearly articulated reasoning with some rational underpinning to support the obviousness rejection. The language “*to combine the teaching of Anderson into Hagen to use a mobile wireless communication protocol to establish communication between the mobile device and the programming fitting server so that more convenience could be provided to the user*” is an improper conclusory statement. The statement relies on a hindsight reconstruction of the Appellants’ claims that uses these claims as a template, rather than a clearly articulated reasoning with rationale underpinning based on the references.

B)(1)(a). The Office does not consider the interrelated context for the claimed subject matter and the interrelated context for the references.

The Office has not determined whether the claimed subject matter as a whole would have been obvious; and the Office has not considered the Anderson reference in its entirety (as a whole), including portions that lead away from the claimed subject matter. For example, claim 1 recites a method comprising using a mobile wireless communication protocol to communicate between a mobile device and a programming fitting server, and programming software in a hearing aid using the programming fitting server and the mobile device. It is improper to take the “mobile wireless communication protocol” out of the interrelated context used in the claim, when the claim indicates that the wireless communication protocol is used to communicate between a mobile device and a programming fitting server. The claim further indicates that the programming fitting server and the mobile device (that communicates to the programming fitting server using the mobile wireless protocol) are used to program software in a hearing aid.

In contrast, rather than showing a wireless communication protocol that is used to communicate between a mobile device and a programming fitting server and that allows the programming fitting server and the mobile device to be used to program software in a hearing aid. Anderson uses the secondary wireless link to load a hearing test program into the RPU.

The remote processing unit (RPU) and the communication thereto in Anderson is not analogous to the multiprogram unit and the communication thereto of Hagen et al.. Anderson loads, through the secondary wireless link, a hearing test program controlling the operation of the RPU during a hearing test into the RPU in order to temporarily store the hearing test program in the RPU for the duration of the hearing test (see col. 27, lines 17-24). This hearing test program is used to perform a hearing test. The hearing aid test program is not used to program a hearing aid (Anderson performs signal processing in the RPU, not a hearing aid). Further, the hearing test program in the RPU of Anderson is unrelated to downloading hearing aid programs from a host through a wired connection into a multiprogram unit used for programming a hearing aid as particularly disclosed in Hagen et al..

B)(1)(b). The Office mischaracterizes element 19 of Anderson as a programming fitting server.

Element 19 in FIG. 1 of Anderson is identified as “OPTIONAL SECONDARY WIRELESS LINK CIRCUITRY”. Anderson states: “*The RPU 16 may be connected (via wired or wireless means 18) to optional secondary wireless link circuitry 19 that allows wireless communication between the RPU and other sources of information (e.g. the general subscriber telephone network) via a secondary wireless link.*” (Col. 4 lines 7-12.) Applicant respectfully asserts that Anderson is silent as to the source of the hearing test program that is sent over the wireless link, and further asserts it is improper for the Office to assume that the hearing test program is provided by a programming fitting server. There is no express or inherent disclosure of a programming fitting server used to program hearing aids.

B)(1)(c). Anderson does not program hearing aids; the RPU of Anderson does not program a hearing aid.

Rather than programming hearing aids, the RPU of Anderson is programmed. The RPU is not used to program software in the earpiece (see e.g. col. 1, lines 63-65 and col. 2, lines 36-39).

B)(1)(d). Anderson teaches away from Hagen et al.

Hagen et al. program earpieces. In contrast, the RPU of Anderson is programmed, and is not used to program software in the earpiece (see e.g. col. 1, lines 63-65 and col. 2, lines 36-39). Therefore, Hagen et al. and Anderson each teach away from the disclosure of the other reference, so that the skilled person would not have contemplated or been motivated to combine these references.

B)(1)(e). The proposed combination of Anderson to Hagen et al. would destroy the ability of Hagen et al. to program hearing aids.

One would not substitute the downloading of the hearing test program into the RPU of Anderson for downloading the hearing aid programs from a host through a wired connection into a multiprogram unit used to program hearing aids of Hagen et al. Such a substitution would make Hagen et al. inoperable to program hearing aids because the RPU and the test program in

the RPU of Anderson do not program hearing aid earpieces. The RPU and test program in the RPU of Anderson do not perform the same function as the multiprogram unit used to program hearing aids of Hagen et al..

B)(1)(f). A combination of Hagen et al. to Anderson would destroy the ability of Anderson to process signals in the RPU rather than the earpiece.

Anderson performs signal enhancement in the RPU, and Anderson asserts an advantage is relaxed size and power constraints realized by performing signal processing in the RPU rather than the earpiece (e.g. col. 1 line 63 to col. 2 line 6; col. 2 lines 36-39). Combining Anderson with Hagen et al. to program earpieces would destroy Anderson's purpose of performing signal processing in the RPU. One would not substitute the downloading of the hearing aid programs from a host through a wired connection into a multiprogram unit used to program hearing aids of Hagen et al. for the downloading the hearing test program into the RPU of Anderson, since the multiprogram unit would make Anderson inoperable to process the signals external to the earpiece (the multiprogram unit of Hagen et al. does not process signals external to the earpiece, as performed by the RPU). The multiprogram unit used to program hearing aids of Hagen et al. has a different function than the RPU and test program in the RPU of Anderson.

B)(1)(g). There is no clearly articulated reasoning with a rationale underpinning to take the isolated feature of the RPU 16 out of the context of the disclosure of Anderson in order to combine it with Hagen et al..

As shown in FIG. 9 and described in e.g. col. 14, lines 3-5 of Hagen et al., the multiprogram unit 320 is temporarily connected to the PCMCIA card 300 via a cable 314, wherein the multiprogram unit 320 is located in the immediate vicinity of the PCMCIA card 300. The wired communication link between the multiprogram unit 320 and the PCMCIA card 300 provides for short range communication in the order of a few meters. By contrast, the secondary wireless link in Anderson is adapted for communication between the RPU and the general subscriber telephone network or voice paging services (see e.g. col. 2, lines 49-51). Since the latter communication is to be established and maintained by the RPU and the RPU is a device carried around by a person, the communication over the secondary wireless link has to be

effective at least over significantly larger distances. A skilled person would not have contemplated or been motivated to replace the cable 314 of Hagen et al., adapted to temporarily connect a hand-held or laptop computer 236 (see e.g. col. 13, lines 16-19) to a multiprogram unit 320 disposed stationary and local to the computer 236, with a communication link adapted for long range communication. If the computer and the multiprogram unit are local to each other as illustrated in Hagen et al., one would not be motivated to use a long distance wireless link in place of the cable. If the computer and the multiprogram unit are local to each other as illustrated in Hagen et al., the substitution of the long distance wireless link for the cable connection would not provide more convenience to provide the temporary communication for these local devices, as asserted by the Office. The objectives and characteristics of these communication links are very different from each other.

***B(2). The combination of references, as proposed by the Office, do not show all of the claimed subject matter.***

B(2)(a). Independent Claim 1.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate the use of a mobile wireless communication protocol to communicate between a mobile device and a programming fitting server. Additionally, the combination of Hagen et al. and Anderson does not illustrate the programming of software in a hearing aid using the programming fitting server and the mobile device, as recited in claim 1.

The wireless communication link in Hagen et al. is between a portable multiprogram unit 320 and hearing aids 344, 348 (see FIG. 9). The wireless link of Hagen et al. is identified as infrared, radio frequency, or ultrasound (col. 14 at lines 27-32). The portable multiprogram unit 320 is connected to a host 236 via a cable 314 and a PCMCIA card 300. This does not show a method that uses a mobile wireless communication protocol to communicate between a mobile device and a programming fitting server.

In Anderson, a microphone in the earpiece picks up audio signals, and these audio signals are transmitted to the remote processing unit (RPU) to enhance the signals (col. 1, lines 50-63).

The audio enhancements are performed in the RPU rather than the earpiece. Only the RPU is programmed (see e.g. claims 28 and 45). The RPU is not used to program software in the earpiece. Further, Anderson does not disclose a programming fitting server.

Claims 2-3 depend on claim 1, and are asserted to be in condition for allowance at least for the reasons provided with respect to claim 1.

B(2)(b). Independent Claim 4.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate the programming a hearing aid system through a mobile device using at least one mobile wireless communication protocol. The combination does not illustrate programming a hearing aid, where programming the hearing aid includes receiving a distributed application in the mobile device from a programming fitting server through at least one long-range network using the at least one mobile wireless communication protocol, and using the distributed application to program a hearing aid in the hearing aid system, as recited in claim 4.

Claim 5 depends on claim 4, and is asserted to be in condition for allowance at least for the reasons provided with respect to claim 4.

B(2)(c). Independent Claim 15.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate a system that includes a mobile device adapted to use a mobile wireless communication protocol to communicate with the programming fitting server and to program software in the hearing aid, as recited in claim 15.

The wireless communication link in Hagen et al. is between a portable multiprogram unit 320 and hearing aids 344, 348 (see FIG. 9). The wireless link of Hagen et al. is identified as infrared, radio frequency, or ultrasound (col. 14 at lines 27-32). The portable multiprogram unit 320 is connected to a host 236 via a cable 314 and a PCMCIA card 300. This does not show a method that uses a mobile wireless communication protocol to communicate between a mobile device and a programming fitting server.



In Anderson, a microphone in the earpiece picks up audio signals, and these audio signals are transmitted to the remote processing unit (RPU) to enhance the signals (col. 1, lines 50-63). The audio enhancements are performed in the RPU rather than the earpiece. Only the RPU is programmed (see e.g. claims 28 and 45). The RPU is not used to program software in the earpiece. Further, Anderson does not disclose a programming fitting server.

Therefore, a combination of Hagen et al. and Anderson does not teach or suggest a mobile device adapted to use a mobile wireless communication protocol to communicate with the programming fitting server, and the mobile device adapted to program software in the hearing aid. Further, it would be improper to take official notice of the missing features as they are not supported by a clear and unmistakable technical line of reasoning. Thus, a *prima facie* case of obviousness has not been established.

Claims 16-21, 24-26, 30 and 32-33 depend, either directly or indirectly, on claim 15, and are asserted to be in condition for allowance at least for the reasons provided with respect to claim 15.

B(2)(d). Independent Claim 36.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate a system that includes a mobile device adapted to use a mobile wireless communication protocol to receive a distributed application from a computer from a long-range network and use the distributed application to program the hearing aid, as recited in claim 36.

Claim 36 recites a system that comprises a system that includes a mobile device adapted to use a mobile wireless communication protocol to receive a distributed application from a computer from a long-range network and use the distributed application to program the hearing aid. These features are not suggested by Hagen et al. and Anderson, either alone or in combination. Further, it would be improper to take official notice of the missing features as they are not supported by a clear and unmistakable technical line of reasoning. Thus, a *prima facie* case of obviousness has not been established.

Hagen et al. does not show or suggest distributed applications. In Claim 36, the mobile device receives a distributed application from the programming fitting server, which distributed

application is used to program the hearing aid. The hearing aid programs downloaded from the host 236 via PCMCIA card 300 and cable 314 into portable multiprogram unit 320 of Hagen et al. do not constitute distributed applications. The programs are stored in the host 236 (see e.g. col. 13, lines 15 and 16). The portable multiprogram unit 320 is temporarily connected to host 236 using the cable 314 so that one or more of the programs can be downloaded into the portable multiprogram unit 320, which is subsequently disconnected from the host 236. Such programs cannot be regarded as distributed applications.

Claim 94 is dependent on claim 36, and is asserted to be in condition for allowance at least for the reasons provided with respect to claim 36.

B(2)(e). Independent Claim 47.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate a system that includes a terminal adapted to program software in the hearing aid, and to use at least one wireless communication protocol to communicate with a programming fitting server to program the software, as recited in claim 47. These features are not suggested by Hagen et al. and Anderson, either alone or in combination. Further, it would be improper to take official notice of the missing features as they are not supported by a clear and unmistakable technical line of reasoning. Thus, a *prima facie* case of obviousness has not been established.

Claims 48-53, 56-58, 64-65 depend, either directly or indirectly, on claim 47, and are asserted to be in condition for allowance at least for the reasons provided with respect to claim 47.

B(2)(f). Independent Claim 66.

As stated above, the Office improperly combined the references. Additionally, the combination of Hagen et al. and Anderson does not illustrate a system that includes a terminal adapted to program a hearing aid, communicate using a wireless communication protocol to receive a distributed application from a programming fitting server, and use the distributed application from the server to interact with the hearing aid.

Claim 66 recites a system that comprises a hearing aid, a programming fitting server, and a terminal, where the terminal is adapted to program the hearing aid, communicate using a wireless communication protocol to receive the distributed application from the server from a long-range network, and use the distributed application to interact with the hearing aid. These features are not suggested by Hagen et al. and Anderson, either alone or in combination. Further, it would be improper to take official notice of the missing features as they are not supported by a clear and unmistakable technical line of reasoning. Thus, a *prima facie* case of obviousness has not been established.

Hagen et al. does not show or suggest distributed applications. The hearing aid programs downloaded from the host 236 via PCMCIA card 300 and cable 314 into portable multiprogram unit 320 of Hagen et al. do not constitute distributed applications. The programs are stored in the host 236 (see e.g. col. 13, lines 15 and 16). The portable multiprogram unit 320 is temporarily connected to host 236 using the cable 314 so that one or more of the programs can be downloaded into the portable multiprogram unit 320, which is subsequently disconnected from the host 236. Such programs cannot be regarded as distributed applications.

Claims 68-69 depend on claim 66, and are asserted to be in condition for allowance at least for the reasons provided with respect to claim 66.

The Appellants respectfully request consideration and reversal of the rejection of claims 1-5, 15-21, 24-26, 30, 32-33, 36, 47-53, 56-58, 64-66, 68-69 and 94 under 35 USC § 103(a) as being unpatentable over Hagen et al. (US 6,424,722) in view of Anderson (U.S. Patent No. 5,721,783).

***D) Discussion of the rejection of claims 22-23 and 54-55 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claims 15 and 47 above, and further in view of Shennib (U.S. Patent No. 5,197,332).***

The addition of Shennib does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Claims 22-23 depend indirectly on claim 15, and claims 54-55 depend indirectly on claim 47. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 22-23 and 54-55 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Shennib.

***E) Discussion of the rejection of claims 27-29, 31-32 and 34-35 and 59-63 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claims 15 and 47 above, and further in view of Leppisaari et al. (U.S. Patent No. 6,717,925).***

The addition of Leppisaari et al. does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Also, the Appellants submit that the rejection does not provide a proper motivation to combine Leppisaari et al., which does not appear to address hearing aid systems, with either Hagen et al. or Anderson.

Claims 27-29, 31-32 and 34-35 depend directly or indirectly on claim 15, and claims 59-63 depend directly or indirectly on claim 47. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 27-29, 31-32 and 34-35 and 59-63 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Leppisaari et al.

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***F) Discussion of the rejection of claims 37-40 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claim 36 above, and further in view of Szymansky (U.S. Patent No. 6,557,029).***

The addition of Szymansky does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Also, the Appellants submit that the rejection does not provide a proper motivation to combine Szymansky, which does not appear to address hearing aid systems, with either Hagen et al. or Anderson.

Claims 37-40 depend directly or indirectly on claim 36. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 37-40 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Szymansky.

***G) Discussion of the rejection of claims 41 and 71 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claim 15-16 and 47-48 above, and further in view of Knappe et al. (U.S. Patent No. 6,061,431).***

The addition of Knappe et al. does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Claims 41 depends indirectly on claim 15 and claim 71 depends indirectly on claim 47. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 41 and 71 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Knappe et al..

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***H) Discussion of the rejection of claims 43-46 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claim 15 and 24 above, and further in view of Fazio (U.S. Patent No. 6,590,986).***

The addition of Fazio does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Claims 43-46 depend indirectly on claim 15. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 43-46 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Fazio.

***I) Discussion of the rejection of claims 42 and 72 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) and Anderson (U.S. Patent No. 5,721,783) as modified by Leppisaari et al. (U.S. Patent No. 6,717,925) as applied to claims 15 and 31 above, and further in view of Peters (U.S. Patent No. 6,601,093).***

The addition of Peters does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson and Leppisaari et al., as identified above. Also, the Appellants submit that the rejection does not provide a proper motivation to combine Peters, which does not appear to address hearing aid systems, with either Hagen et al. or Anderson or Leppisaari et al.. Claim 42 depends indirectly on claim 15, and claim 72 depends indirectly on claim 47. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claim.

The Appellants respectfully request consideration and reversal of the rejection of claims 42 and 72 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson, Leppisaari et al. and Peters.

***K) Discussion of the rejection of claims 67, 70, 93 and 95 under 35 U.S.C. § 103(a) as being unpatentable over Hagen et al. (U.S. Patent No. 6,424,722) as modified by Anderson (U.S. Patent No. 5,721,783) as applied to claims 36, 66 above, and further in view of Peters (U.S. Patent No. 6,601,093).***

The addition of Peters does not address the deficiencies of the rejection with respect to Hagen et al. and Anderson, as identified above. Also, Appellant submits that the rejection does not provide a proper motivation to combine Peters, which does not appear to address hearing aid systems, with either Hagen et al. or Anderson. Claims 67 and 70 depend on claim 66, and claims 93 and 95 depend on claim 36. These dependent claims are believed to be condition for allowance at least for the reasons provided with respect to their base claims.

The Appellants respectfully request consideration and reversal of the rejection of claims 67, 70, 93 and 95 under 35 USC § 103(a) as being unpatentable over Hagen et al. in view of Anderson and Peters.

## 8. SUMMARY

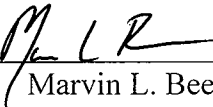
The Appellants respectfully submit that for the reasons argued above, claims 1-5, 15-72 and 93-95 were not properly rejected under § 103(a) as being unpatentable over the cited art.

It is respectfully submitted that the cited art does not render the claims anticipated or obvious and that the claims are patentable over the cited art. Reversal of the rejection and allowance of the pending claims are respectfully requested.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 373-6960

Date 4.14.08

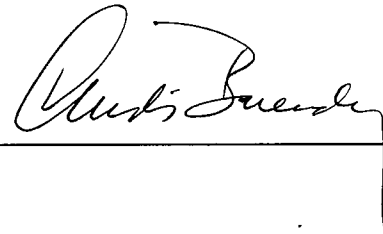
By   
Marvin L. Beekman  
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 14 day of April 2008.

CANDIS BUENDING

Name

Signature





## CLAIMS APPENDIX

1. A method comprising:  
    using a mobile wireless communication protocol to communicate between a mobile device and a programming fitting server; and  
    programming software in a hearing aid using the programming fitting server and the mobile device.
2. The method of claim 1, wherein programming software in a hearing aid includes upgrading software in the hearing aid.
3. The method of claim 1, wherein programming software in a hearing aid includes sending a distributed application from the server to the mobile device, the distributed application being adapted to interact with the hearing aid.
4. A method comprising:  
    programming a hearing aid system through a mobile device using at least one mobile wireless communication protocol, wherein programming the hearing aid system includes:  
        receiving a distributed application in the mobile device from a programming fitting server through at least one long-range network using the at least one mobile wireless communication protocol; and  
        using the distributed application to program a hearing aid in the hearing aid system.
5. The method of claim 4, wherein the programming includes programming the hearing aid using a programming module coupled to the hearing aid.
15. A system comprising:  
    a hearing aid system having a hearing aid;

a programming fitting server; and  
a mobile device adapted to use a mobile wireless communication protocol to communicate with the programming fitting server and to program software in the hearing aid.

16. The system of claim 15, the server is adapted to transmit a distributed application to the mobile device, the distributed application being adapted to interact with the hearing aid.

17. The system of claim 16, further comprising at least one network to facilitate communications at least among the hearing aid system, the mobile device, and the server.

18. The system of claim 15, wherein the hearing aid system includes a hearing aid programming module.

19. The system of claim 15, wherein the hearing aid system is capable of audio signal processing.

20. The system of claim 15, wherein the hearing aid system includes a programming module adapted to communicate with the hearing aid, and wherein the programming module is adapted to communicate with the mobile device so as to receive at least one programming instruction from the mobile device to program the hearing aid.

21. The system of claim 20, wherein the programming module includes a headset.

22. The system of claim 20, wherein the hearing aid is capable of digital audio compression and decompression, and wherein the programming module is capable of digital audio compression and decompression.

23. The system of claim 20, wherein the programming module is capable of sending a test audio signal to the hearing aid so as to test at least one aural response of a patient.

24. The system of claim 15, wherein the mobile device includes a mobile device selected from a group consisting of a digital cellular telephone, a personal digital assistant, and a personal communication and information device.

25. The system of claim 24, wherein the mobile device is adapted to synchronize data with the server.

26. The system of claim 25, wherein the mobile device is adapted to receive an upgraded audiological software from the server.

27. The system of claim 15, wherein the mobile device is adapted to use a data service protocol selected from a group consisting of General Packet Radio Service (GPRS), High-Speed Circuit-Switched Data Service (HSCSD), Enhanced Data Rate for GSM Evolution (EDGE), Integrated Services Digital Network (ISDN), Universal Mobile Telecommunications System (UMTS), and Cellular Digital Packet Data (CDPD).

28. The system of claim 15, wherein the standard mobile wireless communication protocol includes a wireless communication protocol to operate on a long-range wireless network.

29. The system of claim 28, wherein the wireless communication protocol to operate on a long-range wireless network includes a protocol selected from a group consisting of Global System for Mobile Communications (GSM), Code Division Multiple Access-One (cdmaOne), Time Division Multiple Access (TDMA), PDC, JDC, Universal Mobile Telecommunications System (UMTS), Code Division Multiple Access-2000 (cdma2000), and Digital Enhanced Cordless Telephony (DECT).

30. The system of claim 15, wherein the mobile device is configured to communicate with the hearing system over a short-range network.

31. The system of claim 30, wherein the short-range network includes a short-range network selected from a group consisting of a radio communication network, an optical communication network, and a wired communication network.

32. The system of claim 31, wherein the optical communication network includes an optical communication network using Infrared Data Association (IrDA) protocol.

33. The system of claim 30, wherein the hearing aid system is adapted to communicate with the mobile device wirelessly through the short-range network.

34. The system of claim 17, wherein the server is adapted to couple to an Internet.

35. The system of claim 34, further comprising a gateway adapted to be coupled in a communication path between the mobile device and the server.

36. A system comprising:

a hearing aid system having a hearing aid;

a distributed application; and

a mobile device adapted to program the hearing aid, the mobile device adapted to use a mobile wireless communication protocol to receive the distributed application from a computer from a long-range network, the mobile device adapted to use the distributed application to program the hearing aid.

37. The system of claim 36, wherein the distributed application includes an applet.

38. The system of claim 37, wherein the applet is configured as a Java applet.

39. The system of claim 38, wherein the applet is adapted to receive information from the computer, and wherein the applet is adapted to transmit information to the computer.

40. The system of claim 38, wherein the mobile device includes a browser that is adapted to receive the applet to execute on the mobile device so as to interact with the hearing aid system.

41. The system of claim 16, wherein the server includes a database that includes patient data, and audiological data associated with at least one hearing aid system.

42. The system of claim 31, wherein the radio communication network includes a network selected from a group consisting of HomeRF, DECT, PHS, WLAN, and Bluetooth technology.

43. The system of claim 24, wherein the personal communication and information device includes a CompactFlash module that is adapted to communicate with the hearing aid system.

44. The system of claim 24, wherein the digital cellular phone includes a custom interface module that is adapted to communicate with the hearing aid system.

45. The system of claim 26, wherein the upgraded audiological software includes a piece of software to be executed on the mobile device.

46. The system of claim 26, wherein the upgraded audiological software includes a piece of software to be executed on the hearing aid.

47. A system comprising:

a hearing aid system having a hearing aid; and

a terminal adapted to program software in the hearing aid, the terminal adapted to use at least one wireless communication protocol to communicate with a programming fitting server to program the software.

48. The system of claim 47, further comprising the programming fitting server.

49. The system of claim 48, further comprising at least one network to facilitate communications at least among the hearing aid system, the terminal, and the server.

50. The system of claim 47, wherein the hearing aid system includes a hearing aid programming module.

51. The system of claim 47, wherein the hearing aid system is capable of audio signal processing.

52. The system of claim 47, wherein the hearing aid system includes a programming module adapted to communicate with the hearing aid, and wherein the programming module is adapted to communicate with the terminal so as to receive at least one programming instruction from the terminal to program the hearing aid.

53. The system of claim 52, wherein the programming module includes a headset that is capable of communicating ambient information.

54. The system of claim 52, wherein the hearing aid is capable of digital audio compression and decompression, and wherein the programming module is capable of digital audio compression and decompression.

55. The system of claim 52, wherein the programming module is capable of sending a test audio signal to the hearing aid so as to test at least one aural response of a patient.

56. The system of claim 47, wherein the terminal is a data terminal.

57. The system of claim 48, wherein the terminal is adapted to synchronize data with the server.

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58. The system of claim 57, wherein the terminal is adapted to receive an upgraded audiological software from the server.

59. The system of claim 47, wherein the terminal is adapted to use a data service protocol selected from a group consisting of General Packet Radio Service (GPRS), High-Speed Circuit-Switched Data Service (HSCSD), Enhanced Data Rate for GSM Evolution (EDGE), Integrated Services Digital Network (ISDN), Universal Mobile Telecommunications System (UMTS), and Cellular Digital Packet Data (CDPD).

60. The system of claim 47, wherein the at least one standard wireless communication protocol includes a standard wireless communication protocol to operate on a long-range wireless network.

61. The system of claim 60, wherein the standard wireless communication protocol to operate on a long-range wireless network includes a protocol selected from a group consisting of Global System for Mobile Communications (GSM), Code Division Multiple Access-One (cdmaOne), Time Division Multiple Access (TDMA), PDC, JDC, Universal Mobile Telecommunications System (UMTS), Code Division Multiple Access-2000 (cdma2000), and Digital Enhanced Cordless Telephony (DECT).

62. The system of claim 47, wherein the terminal is configured to communicate with the hearing system over a short-range network.

63. The system of claim 62, wherein the short-range network includes a short-range network selected from a group consisting of a radio communication network, an optical communication network, and a wired communication network.

64. The system of claim 63, wherein the optical communication network includes an optical communication network using Infrared Data Association (IrDA) protocol.

65. The system of claim 62, wherein the hearing aid system is adapted to communicate with the terminal wirelessly through the short-range network.

66. A system comprising:

a hearing aid system having a hearing aid;

a programming fitting server adapted to store a distributed application; and

a terminal adapted to program the hearing aid, the terminal adapted to communicate using a wireless communication protocol to receive the distributed application from the server from a long-range network, the mobile device adapted to use the distributed application to interact with the hearing aid.

67. The system of claim 66, wherein the terminal is configured to communicate with the hearing aid system using Bluetooth wireless communication protocol.

68. The system of claim 66, wherein the terminal is adapted to communicate using a Wireless Access Protocol.

69. The system of claim 66, wherein the distributed application includes an object that is adapted to receive information from the server and adapted to transmit information to the server.

70. The system of claim 66, wherein the terminal is configured to communicate with the hearing aid system over a short-range network using a protocol associated with the short-range network.

71. The system of claim 48, wherein the server includes a database that includes patient data, and audiological data associated with at least one hearing aid system.

72. The system of claim 63, wherein the radio communication network includes a network implemented using Bluetooth technology.



93. The system of claim 36, wherein the mobile device is configured to communicate with the hearing aid system using Bluetooth wireless communication protocol.

94. The system of claim 36, wherein the mobile device is adapted to communicate using a Wireless Access Protocol.

95. The system of claim 36, wherein the mobile device is configured to communicate with the hearing aid system over a short-range network using a protocol associated with the short-range network.

## **EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.